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Laboratory Item 308

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67-1081

A SUMMARY OF ENGINEERING PROPERTIES, SEDIMENT SIZE, AND
COMPOSITION ANALYSES OF CORES FROM PEARL HARBOR FOR
ARTHUR D. LITTLE, INC. (MARCH 1967)

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Nearshore Surveys Division
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U. S. Naval Oceanographic Office
Washington, D. C. 20390

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EXPLANATION OF DATA PAGES
CORE ANALYSIS SUMMARY SHEET
Engineering Properties
NAVOCEANO (EXP) 3167/18B (Rev. 1-63)

Results of engineering properties, core analysis performed by the U. S. Naval Oceanographic Office Geological Laboratory are recorded on Core Analysis Summary Sheet Engineering Properties.

The following is a description of the terms employed on the Core Analysis Summary Sheet:

1. Cruise Number. A number assigned to each cruise for identification purposes.
2. Latitude. Expressed in degrees, minutes, and seconds.
3. Longitude. Expressed in degrees, minutes, and seconds.
4. Sample Number. A consecutive number, commencing with 1, applied to each core taken successively throughout the cruise.
5. Date Taken. Day (GMT), month, and year.
6. Water Depth (m). The uncorrected sonic sounding recorded in meters.
7. Type Corer. Identified by the name of device employed.
8. Core Length (cm). Recorded in centimeters as observed in the laboratory.
9. Core Penetration (cm). Recorded in centimeters as observed in the field.
10. Subsample Depth in Core (cm). Interval of subsample as measured in centimeters from the top of the core.
11. Wet Unit Weight (g/cm³). The weight (solids plus water) per unit volume of the sediment mass.
12. Specific Gravity of Solids. The ratio of weight in air of a given volume of a sediment at 20°C to the weight in air of an equal volume of distilled water at 20°C.
13. Water Content (% dry weight). The ratio, in percent, of the weight of water in a given mass of the sediment sample to the weight of the solid particles.
14. Void Ratio. The ratio of the volume of void spaces to the volume of solid particles in the sediment sample as computed from Wet Unit Weight, Specific Gravity of Solids, and Water Content.

15. Saturated Void Ratio. The Void Ratio at 100 percent saturation as computed from Water Content and Specific Gravity of Solids.

$$\text{Saturated Void Ratio} = \frac{\text{Water Content} \times \text{Specific Gravity of Solids}}{100}$$

16. Porosity (%). The ratio, usually expressed as a percentage, of the volume of voids of a sediment mass to the total volume of the sediment mass.

17. Liquid Limit. Water Content, in percent, at which a pat of sediment cut by a groove of standard dimension will flow together for a distance of 1/2 inch under the impact of 25 blows in a standard liquid limit apparatus.

18. Plastic Limit. Water Content, in percent, at which a sediment will just begin to crumble when rolled into a thread approximately 1/8 inch in diameter.

19. Plasticity Index. The numerical difference between the Liquid Limit and Plastic Limit of the sediment mass.

20. Liquidity Index. The ratio, expressed in percentage, of (1) the natural water content of the sediment sample minus its Plastic Limit to (2) its Plasticity Index.

21. Compression Index. The slope of the linear portion of the Pressure-Void Ratio curve on a semi-log plot.

22. Compressive Strength. The load per unit area required to shear an unconfined, natural or remolded, sediment mass.

23. Cohesion. The shearing strength per unit area under zero externally applied load.

24. Sensitivity. The ratio of the natural to the remolded strength. It is a measure of the loss of strength due to remolding the sediment mass.

25. Angle of Internal Friction ($^{\circ}$). The angle between the abscissa and the tangent of the curve representing the relationship of "shearing resistance" to "normal stress" acting within a sediment mass.

26. Activity. The ratio of the Plasticity Index to the clay fraction percentage (<.002mm) of the sediment mass.

27. Modulus of Elasticity. The ratio of stress to strain of the sediment mass.

28. Slump (%). The ratio, in percent, of the amount of height change immediately before the compressive strength test to the original height of a cylinder of sediment.

EXPLANATION OF COMPUTER DATA SHEET
SEDIMENT SIZE AND COMPOSITION

Results of sediment-size and composition core analysis performed by the U. S. Naval Oceanographic Office Geological Laboratory are tabulated on Computer Data Sheet Sediment Size and Composition.

The following is an explanation of the terms employed on the Computer Data Sheet:

1. CRUISE. A number assigned to each cruise for identification purposes.
2. SAMPLE. A consecutive number applied to each core taken successively throughout the cruise.
3. LATITUDE. Expressed in degrees, minutes, and tenth of minutes.
4. LONGITUDE. Expressed in degrees, minutes, and tenths of minutes.
5. TAKEN. Date in day, month, and year that core was taken.
6. CORER TYPE. Number corresponding to sampling device code below.

- | | |
|-------------------------|----------------|
| 1. Hydroplastic piston | 6. Orange Peel |
| 2. Hydroplastic gravity | 7. Ewing |
| 3. Kullenberg piston | 8. Vibrocorer |
| 4. Kullenberg gravity | 9. Dredge |
| 5. Phleger gravity | 0. Other |

7. LENGTH. Length of core recorded in centimeters as observed in the laboratory.

8. PENETRATION. Penetration of coring device recorded in centimeters as observed in the field.

9. DEPTH. The uncorrected sonic sounding recorded in meters.

10. ANALYZED. Date in day, month, and year that the core was analyzed in the laboratory.

11. ID. NO. Three digit laboratory project number followed by consecutive number assigned to each subsample analyzed.

12. INTERVAL. Interval of subsample as measured in centimeters from the top of the core.

13. MI. Particle diameter size intervals based on Wentworth size grades in millimeters.

14. PER. Percent of total sample weight within the given size interval. Smallest size analyzed is 0.0010 mm. Percent recorded for 0.0000- is

percentage of particles smaller than 0.0010 mm.

15. GRAVEL, SAND, SILT, CLAY. Percent of total sample weight within the four size classes.

Class ranges are:
 Gravel - coarser than 2mm
 Sand - 2 to 0.0625 mm
 Silt - 0.0625 to 0.0039 mm
 Clay - finer than 0.0039 mm

16. MEAN (MM). The geometric mean of the distribution expressed in millimeters.

17. MEAN (PHI). The logarithmic mean of the distribution expressed in phi units (-log₂ of the diameter in millimeters).

18. STAN DEV. Standard deviation. A measure of the degree of spread or dispersion of the distribution about the mean expressed in phi units.

$$s = \sqrt{\sum f(X_i - \bar{X})^2 / 100}$$

19. SKEWNESS. A measure of the asymmetry of the distribution. Positive values denote skewness of the distribution toward the fine particles, negative values denote skewness toward the coarse particles. A normal distribution has a skewness of 0.

$$\text{SKEWNESS} = 1/100 s^{-3} \sum f(X_i - \bar{X})^3$$

20. KURTOSIS. A measure of the peakedness of the distribution. Positive values denote a "leptokurtic" distribution, or a distribution more "peaked" than normal. Negative values denote a "platykurtic" distribution, or a distribution more "flat" than normal. A normal curve has a kurtosis of 0.

$$\text{KURTOSIS} = 1/100 s^{-4} \sum f(X_i - \bar{X})^4 - 3$$

21. CACO₃. Percent calcium carbonate of the total sample weight as determined by the insoluble residue method.

22. ORG CARBON. Percent organic carbon of the total sample weight as determined by the Allison method.

23. COLOR. Wet sediment color, based on the Geological Society of America Rock-Color Chart, as determined in the laboratory.

24. DOM MINERAL. Dominant mineral (s) comprising the sample assemblage.

25. SEC MINERAL. Secondary mineral (s) comprising the sample assemblage.

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CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

NAVOCEANO-EXP-3167/18-B (Rev. 1-63)

ANALYZED BY Hill

DATE March 14, 1967

| | | | |
|---|----------------------------------|---------------------|--|
| 1. CRUISE NO. A. D. Little & Co. | 4. SAMPLE NO. | BS-1 | 7. TYPE CORER Hydro-plastic |
| 2. LATITUDE ° | 5. DATE TAKEN (Day, month, year) | 10/3/67 | 8. CORE LENGTH (cm) |
| 3. LONGITUDE ° | 6. WATER DEPTH (m) | Shallow | 9. CORER PENETRATION (cm) |
| 10. SUBSAMPLE DEPTH IN CORE (cm) | | | |
| 11. WET UNIT WEIGHT (g/cm^3) | | | |
| 12. SPECIFIC GRAVITY OF SOLIDS | | | |
| 13. WATER CONTENT (%) dry weight | | | |
| 14. VOID RATIO | | | |
| 15. SATURATED VOID RATIO | | | NO ENGINEERING PROPS DUE TO ROCKS AND SHELLS |
| 16. POROSITY (%) | | | |
| 17. LIQUID LIMIT | | | |
| 18. PLASTIC LIMIT | | | |
| 19. PLASTICITY INDEX | | | |
| 20. LIQUIDITY INDEX | | | |
| 21. COMPRESSION INDEX FROM LL | | | |
| 22. COMPRESSIVE STRENGTH NATURAL (g/cm^2) | | | |
| | REMOULD | (g/cm^2) | |
| 23. COHESION NATURAL (g/cm^2) | | | |
| | REMOULD | (g/cm^2) | |
| 24. SENSITIVITY | | | |
| 25. ANGLE OF INTERNAL FRICTION ($^\circ$) | | | |
| 26. ACTIVITY | | | |
| 27. MODULUS OF ELASTICITY | | | |
| 28. SLUMP (%) | | | |
| 29. REMARKS * - Core taken near Drydock #3; nearest one to shore. | | | |

CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

MGG 09005021

ANALYZED BY Hill

DATE March 15, 1967

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NAVOCENO-EXP-3187/18-B (Rev. 1-63)

| | | |
|--|---|--|
| 1. CRUISE NO. <u>A. D. Little & Co.</u> | 4. SAMPLE NO. <u>BS - 2</u> | 7. TYPE CONER <u>Hydroplastic</u> |
| 2. LATITUDE <u>* 21° N</u> | 5. DATE TAKEN (Day, month, year) <u>10/3/67</u> | 8. CORE LENGTH (cm) <u>105</u> |
| 3. LONGITUDE <u>158° 04'</u> | 6. WATER DEPTH (m) <u>"</u> | 9. CORER PENETRATION (cm) <u>--</u> |
| 10. SUBSAMPLE DEPTH IN CORE (cm) | 0-10 | 0-10 |
| 11. WET UNIT WEIGHT (g/cm^3) | | |
| 12. SPECIFIC GRAVITY OF SOLIDS | No | No |
| 13. WATER CONTENT (% dry weight) | TEST | 58.99 |
| 14. VOID RATIO | TEST | 1.59 |
| 15. SATURATED VOID RATIO | | 1.56 |
| 16. POROSITY (%) | | |
| 17. LIQUID LIMIT | | |
| 18. PLASTIC LIMIT | | |
| 19. PLASTICITY INDEX | | |
| 20. LIQUIDITY INDEX | | |
| 21. COMPRESSION INDEX FROM LL | | |
| 22. COMPRESSIVE STRENGTH NATURAL (g/cm^2) | REMOULD (g/cm^2) | |
| 23. COHESION NATURAL (g/cm^2) | REMOULD (g/cm^2) | |
| 24. SENSITIVITY | | |
| 25. ANGLE OF INTERNAL FRICTION ($^\circ$) | | |
| 26. ACTIVITY | | |
| 27. MODULUS OF ELASTICITY | | |
| 28. SLUMP (in) | | |
| 29. REMARKS *-Core taken near drydock #3; middle core 0-10, 20-30, highly disturbed; 40-50, 60-70-to sloppy, no readings obtained; 80-105-unable to insert vane due to rocks; whole core loaded with shells and rocks. Soil fell apart on touch. | | |
| | | 308 |
| | | x - Recomputed assuming 100% saturation. |

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CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

NAVOCEANO-EXP-3167/19-B (Rev. 1-63)

| | | |
|---|---|--|
| 1. CRUISE NO. A.D. Little & Co. | 4. SAMPLE NO. BS - 3 | 7. TYPE CORER Hydروplastic |
| 2. LATITUDE * 21° N | 5. DATE TAKEN (Day, month, year) 10/3/67 | 8. CORE LENGTH (cm) 196 |
| 3. LONGITUDE 158° W | 6. WATER DEPTH (m) ---- | 9. CORER PENETRATION (cm) ----100----110 |
| 10. SUBSAMPLE DEPTH IN CORE (cm) | 0-10 10-20 20-30 30-40 40-50 50-60 60-70 70-80 80-90 90-100 110 120 | |
| 11. WET UNIT WEIGHT (g/cm³) | No. 1.61 | 1.47 |
| 12. SPECIFIC GRAVITY OF SOLIDS | 1.70 | 2.32 |
| 13. WATER CONTENT (% dry weight) | 81.56 78.19 66.96 78.00 82.26 80.17 77.20 84.84 79.88 88.22 86.21 | |
| 14. VOID RATIO | X 1.82 | 1.86 |
| 15. SATURATED VOID RATIO | 1.82 | 1.90 |
| 16. POROSITY (%) | 64.54 | 65.03 |
| 17. LIQUID LIMIT | | 104 |
| 18. PLASTIC LIMIT | | 2.25 |
| 19. PLASTICITY INDEX | | |
| 20. LIQUIDITY INDEX | | |
| 21. COMPRESSION INDEX FROM LL | | |
| 22. COMPRESSIVE STRENGTH NATURAL (g/cm²) REMOULD (g/cm²) | | |
| 23. COHESION NATURAL (g/cm²) REMOULD (g/cm²) | 1.40 | 2.81 |
| 24. SENSITIVITY | — | — |
| 25. ANGLE OF INTERNAL FRICTION (°) | — | 1.3 |
| 26. ACTIVITY | | |
| 27. MODULUS OF ELASTICITY | | |
| 28. SLUMP (cm) | | |
| 29. REMARKS * Core taken near drydock #3; furthest from shore 0-10, 110-120, disturbed due to shells and rocks. | | |
| | | X Soil fell apart on touch. |
| | | X Recomputed assuming 100% saturation. |

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ANALYZED BY Hill

DATE March 15, 1967

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CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

NAVOCEANO-EXP-3167/18-B (Rev 1-63)

ANALYZED BY HILLDATE March 15, 1967

| 1. CRUISE NO. | 4. SAMPLE NO. | BS - 3 (Con't.) | 7. TYPE CORER |
|---|---|-------------------------------|---------------------------|
| 2. LATITUDE | 5. | DATE TAKEN (Day, month, year) | B. CORE LENGTH (cm) |
| 3. LONGITUDE | 6. | WATER DEPTH (m) | 9. CORER PENETRATION (cm) |
| 10. SUBSAMPLE DEPTH IN CORE (cm) | 120-130 | 130-140 | 140-150 |
| 11. WET UNIT WEIGHT (g/cm^3) | 1.52 | 150-160 | 160-175 |
| 12. SPECIFIC GRAVITY OF SOLIDS | 2.70 | No | No |
| 13. WATER CONTENT (% dry weight) | 76.50 | E_{ST} | 1.52 |
| 14. VOID RATIO | 2.13 | E_{ST} | 2.77 |
| 15. SATURATED VOID RATIO | 2.06 | E_{ST} | No |
| 16. POROSITY (%) | 68.05 | E_{ST} | 2.42 |
| 17. LIQUID LIMIT | | | 70.76 |
| 18. PLASTIC LIMIT | | | |
| 19. PLASTICITY INDEX | | | |
| 20. LIQUIDITY INDEX | | | |
| 21. COMPRESSION INDEX FROM LL | | | |
| 22. COMPRESSIVE STRENGTH NATURAL | (g/cm^2) | | |
| REMOULD | (g/cm^2) | | |
| 23. COHESION NATURAL | (g/cm^2) | | 2.11 |
| REMOULD | (g/cm^2) | | |
| 24. SENSITIVITY | | | |
| 25. ANGLE OF INTERNAL FRICTION (ϕ) | | | |
| 26. ACTIVITY | | | |
| 27. MODULUS OF ELASTICITY | | | |
| 28. SLUMP (%) | X | | |
| 29. REMARKS | 130-140, 150-160, 160-175, 190-196 - disturbed due to shells and rocks. X - recomputed assuming 100% saturation. | | |

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LONGITUDE 0 0.0
DEPTH 0.0

| CRUISE LEVEL | SAMPLE COUNTER TYPE 2 | LENGTH | 1 | LATITUDE | 0 | PENETRATION | 0.0 |
|--------------|--------------------------|--------|-------|----------|---|-------------|------------|
| 10. NO. | 308 | 6 | 308 | 7 | | | 308 8 |
| INTERVAL | 0.0- | 5.0 | 14.0- | 20.0 | | | 30.0- 36.0 |

SEDIMENT SIZE AND COMPOSITION DATA

TAKEN 10/03/67
ANALYZED 14/03/67

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PER MM PER PER PER PER PER

| | |
|--------|--------|
| 4.0000 | 0.000 |
| 2.0000 | 0.082 |
| 1.0000 | 0.082 |
| 0.5000 | 0.409 |
| 0.2500 | 3.273 |
| 0.1250 | 13.093 |
| 0.0625 | 11.047 |
| 0.0312 | 10.229 |
| 0.0156 | 5.319 |
| 0.0078 | 4.910 |
| 0.0039 | 13.912 |
| 0.0020 | 8.592 |
| 0.0010 | 10.638 |
| 0.0005 | 0.000 |
| 0.0000 | 18.412 |
| 31.884 | |
| 33.459 | |
| 23.183 | |
| 9.273 | |
| 5.639 | |
| 3.133 | |
| 2.882 | |
| 2.005 | |
| 6.767 | |
| 0.877 | |
| 0.627 | |
| 1.880 | |
| 4.010 | |
| 2.130 | |
| 0.000 | |
| 5.435 | |

| | | | |
|---------|--------|--------|--------|
| GRANBLE | 0.082 | 42.754 | 56.642 |
| SAND | 27.905 | 32.246 | 22.932 |
| SIUT | 34.370 | 13.768 | 10.150 |
| GOLAY | 37.643 | 11.722 | 10.150 |

| | | | |
|-----------|---------|---------|--------|
| MEAN (MH) | 0.0094 | 0.4355 | 0.6877 |
| MEAN (RH) | 6.7373 | 1.1993 | 0.5401 |
| STAN DBV | 3.2553 | 4.2580 | 4.0126 |
| SKEWNESS | 0.0182 | 0.6206 | 0.8069 |
| KURTOSIS | -1.2588 | -0.1366 | 0.7709 |

| | | | |
|-------------|--------|--------|--------|
| DAC003 | 77.400 | 91.800 | 89.000 |
| ORG CARBON | 0.000 | 0.000 | 0.000 |
| ODOR | | N4 | N4 |
| DON MINERAL | SHELL | SILT | SILT |
| SEC MINERAL | CLAY | SHEL | DK MI |
| | | SHEL | SHELL |

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TAKEN 10/03/67
ANALYZED 10/03/67

SEDIMENT SIZE AND COMPOSITION DATA

| CRUISE LITTLE COPPER TYPE 2 | SAMPLE LENGTH | LATITUDE 105.0 | LATITUDE 0.0 | LONGITUDE 0.0 | DEPTH 0.0 | TAKEN 10/03/67 ANALYZED 10/03/67 |
|--------------------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------------------------|
| TO: NO. INTERVAL | 308 0.0- 10.0 | 308 40.0- 50.0 | 308 60.0- 70.0 | 308 80.0- 90.0 | 308 80.0- 90.0 | 308 100.0-105.0 |
| MM | PER | PER | PER | PER | PER | PER |
| 4.0000 | 23.220 | 9.827 | 3.679 | 24.458 | 12.040 | |
| 2.0000 | 13.932 | 4.913 | 6.020 | 2.786 | 3.679 | |
| 1.0000 | 6.192 | 2.890 | 3.344 | 3.096 | 3.679 | |
| 0.5000 | 4.334 | 2.601 | 3.010 | 3.096 | 3.010 | |
| 0.2500 | 3.096 | 2.023 | 2.676 | 2.167 | 2.676 | |
| 0.1250 | 2.786 | 2.312 | 2.676 | 2.786 | 3.010 | |
| 0.0625 | 0.619 | 2.023 | 0.334 | 2.477 | 2.676 | |
| 0.0312 | 8.978 | 34.104 | 32.776 | 8.669 | 21.739 | |
| 0.0156 | 4.334 | 3.468 | 6.355 | 4.954 | 2.676 | |
| 0.0078 | 3.715 | 5.780 | 2.007 | 8.050 | 5.696 | |
| 0.0039 | 8.050 | 6.069 | 4.013 | 8.978 | 8.027 | |
| 0.0020 | 4.644 | 7.225 | 9.365 | 8.050 | 8.696 | |
| 0.0010 | 1.548 | 3.468 | 5.351 | 8.050 | 5.351 | |
| 0.0005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 0.0000- | 14.551 | 13.295 | 18.395 | 12.384 | 17.057 | |
| GRAVEL | 37.152 | 14.740 | 9.699 | 27.245 | 15.719 | |
| SAND | 17.028 | 11.850 | 12.040 | 13.622 | 15.050 | |
| SILT | 25.077 | 49.422 | 45.150 | 30.650 | 38.127 | |
| CLAY | 20.743 | 23.988 | 33.110 | 28.483 | 34.104 | |
| MEAN (MM) | 0.1214 | 0.0343 | 0.0205 | 0.0519 | 0.0281 | |
| MEAN (RH%) | 3.0418 | 4.8671 | 5.6104 | 4.2678 | 5.1555 | |
| STAN DEV | 5.1070 | 4.1512 | 4.0939 | 5.0082 | 4.5439 | |
| SKEWNESS | 0.2306 | -0.0648 | -0.0818 | -0.0416 | -0.1077 | |
| KURTOSIS | -1.4680 | -0.8788 | -0.8768 | -1.6159 | -1.1937 | |
| CACO3 | 70.200 | 47.100 | 39.900 | 63.300 | 53.900 | |
| ORG CARBON | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| COLOR | 5Y4/1 | 5Y4/1 | 5Y4/1 | 5Y4/1 | 5Y4/1 | |
| DOM MINERAL | SILT | SILT | SHELL | SHELL | SHELL | |
| SEC MINERAL | SHELL | SHELL | DK MINERAL | DK MINERAL | DK MINERAL | |

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SEDIMENT SIZE AND COMPOSITION DATA

| CRUISE LITTLE CORER TYPE 2 | SAMPLE LENGTH | 3 196.0 | LATITUDE PENETRATION | 0 0.0 0.0 C | LONGITUDE | | 0 0.0 DEPTH D.C | | TAKEN 10/03/67 ANALYZED 15/03/67 | |
|-------------------------------|------------------|------------|-------------------------|----------------|-------------|-------------|--------------------|-------------|-------------------------------------|-------------|
| | | | | | MM | PER | MM | PER | MM | PER |
| ID. NO. | 308 | 9 | 308 10 | 308 11 | 308 12 | 308 13 | 308 14 | 308 15 | 308 16 | 308 17 |
| INTERVAL | 0.0- 10.0 | 30.0- 40.0 | 30.0- 60.0 | 30.0- 90.0 | 30.0- 120.0 | 30.0- 150.0 | 30.0- 180.0 | 30.0- 210.0 | 30.0- 240.0 | 30.0- 270.0 |
| MM | PER | MM | PER | MM | PER | MM | PER | MM | PER | MM |
| 4.0000 | 0.000 | 7.605 | 0.000 | 11.111 | 4.394 | 14.757 | 1.757 | 18.061 | 6.061 | 22.061 |
| 2.0000 | 9.955 | 3.559 | 5.323 | 1.757 | 2.281 | 1.767 | 1.767 | 3.030 | 3.030 | 3.076 |
| 1.0000 | 3.167 | 2.491 | 2.662 | 2.662 | 2.491 | 3.042 | 2.120 | 3.030 | 3.030 | 2.636 |
| 0.5000 | 2.715 | 2.491 | 2.491 | 2.491 | 2.715 | 4.183 | 3.534 | 4.040 | 4.040 | 3.545 |
| 0.2500 | 2.262 | 2.023 | 2.662 | 2.023 | 2.262 | 3.534 | 2.684 | 2.684 | 2.684 | 4.833 |
| 0.1250 | 2.715 | 3.203 | 7.224 | 2.135 | 3.802 | 2.827 | 2.121 | 2.121 | 2.121 | 25.483 |
| 0.0625 | 0.905 | 2.023 | 7.224 | 4.270 | 7.224 | 4.947 | 2.021 | 2.021 | 2.021 | 3.954 |
| 0.0312 | 20.814 | 24.555 | 11.027 | 10.320 | 12.928 | 9.187 | 5.051 | 5.051 | 5.051 | 7.469 |
| 0.0156 | 3.620 | 2.135 | 10.320 | 5.694 | 12.928 | 8.834 | 10.774 | 10.774 | 10.774 | 13.181 |
| 0.0078 | 8.145 | 4.270 | 6.406 | 5.694 | 4.943 | 6.360 | 5.724 | 5.724 | 5.724 | 14.060 |
| 0.0039 | 9.955 | 6.406 | 10.320 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 17.909 |
| 0.0020 | 10.860 | 10.320 | 12.928 | 29.181 | 25.095 | 32.155 | 25.253 | 25.253 | 25.253 | 25.308 |
| 0.0010 | 5.430 | 5.694 | 4.943 | 29.181 | 25.095 | 32.155 | 3.329 | 3.329 | 3.329 | 3.329 |
| 0.0005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 0.0000- | 19.457 | 29.181 | 25.095 | 29.181 | 25.095 | 32.155 | 25.253 | 25.253 | 25.253 | 25.308 |
| GRAVEL | 9.955 | 3.559 | 12.928 | 12.928 | 12.928 | 1.767 | 17.172 | 17.172 | 17.172 | 6.151 |
| SAND | 11.765 | 13.879 | 14.829 | 14.829 | 14.829 | 12.721 | 14.815 | 14.815 | 14.815 | 18.453 |
| SILT | 42.534 | 37.367 | 29.278 | 29.278 | 29.278 | 38.163 | 26.263 | 26.263 | 26.263 | 30.088 |
| CLAY | 35.747 | 45.196 | 42.966 | 42.966 | 42.966 | 47.350 | 41.751 | 41.751 | 41.751 | 25.308 |
| MEAN (MM) | 0.0149 | 0.0082 | 0.0130 | 0.0060 | 0.0060 | 0.0195 | 0.0244 | 0.0244 | 0.0244 | |
| MEAN (RH) | 6.0701 | 6.9306 | 6.2605 | 7.3905 | 5.6818 | 5.3576 | | | | |
| STAN DEV | 4.0685 | 3.8628 | 4.5746 | 3.6212 | 4.9159 | 3.3439 | | | | |
| SKEWNESS | -0.1882 | -0.1767 | -0.2739 | -0.2043 | -0.1640 | -0.2560 | | | | |
| KURTOSIS | -0.8380 | -0.8939 | -1.0053 | -0.8308 | -1.3577 | -0.4070 | | | | |
| CACO3 | 40.000 | 39.800 | 37.600 | 33.400 | 40.900 | 32.000 | | | | |
| ORG CARBON | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | | | |
| COLOR | 5Y5/2 | 5Y5/2 | 5Y5/2 | 5Y5/2 | 5Y5/2 | 5Y5/2 | | | | |
| DOM MINERAL | SILT | SILT | CLAY | CLAY | CLAY | CLAY | | | | |
| SEC MINERAL | SHEL DK MI | SHEL DK MI | SHELL | SHELL | SHELL | SHELL | | | | |

MCG09005021

ID. NO. 308 16
INTERVAL 180.0-190.00

| MM | PER | PER | PER | PER | PER | PER | PER | PER |
|-------------|------------|------------|-----|-----|-----|-----|-----|-----|
| 4.0000 | 9.125 | 2.518 | | | | | | |
| 2.0000 | 3.422 | 2.878 | | | | | | |
| 1.0000 | 1.521 | 1.439 | | | | | | |
| 0.5000 | 2.284 | 2.158 | | | | | | |
| 0.2500 | 2.281 | 2.518 | | | | | | |
| 0.1250 | 3.422 | 3.597 | | | | | | |
| 0.0625 | 1.521 | 3.597 | | | | | | |
| 0.0312 | 8.745 | 37.410 | | | | | | |
| 0.0156 | 6.084 | 3.957 | | | | | | |
| 0.0078 | 9.125 | 3.237 | | | | | | |
| 0.0039 | 10.646 | 6.475 | | | | | | |
| 0.0020 | 12.167 | 8.273 | | | | | | |
| 0.0010 | 10.266 | 7.554 | | | | | | |
| 0.0005 | 0.000 | 0.000 | | | | | | |
| 0.0000- | 19.392 | 14.388 | | | | | | |
| GRAVEL | 12.548 | 5.396 | | | | | | |
| SAND | 11.027 | 13.309 | | | | | | |
| SLT | 34.601 | 51.079 | | | | | | |
| CLAY | 41.825 | 30.216 | | | | | | |
| MEAN (MM) | 0.0131 | 0.0177 | | | | | | |
| MEAN (RHIT) | 6.2567 | 5.8237 | | | | | | |
| STAN DEV | 4.3726 | 3.5558 | | | | | | |
| SKENNESS | -0.3305 | -0.0494 | | | | | | |
| KURTOSIS | -0.7529 | -0.4703 | | | | | | |
| CACO3 | 0.000 | 46.300 | | | | | | |
| ORG CARBON | 0.000 | 0.000 | | | | | | |
| COLOR | SY5/2 | SY5/2 | | | | | | |
| DOM MINERAL | CLAY | SILT | | | | | | |
| SEC MINERAL | SHEL DK M3 | SHEL DK M1 | | | | | | |